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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/673,780   | 09/29/2003  | Takashi Kanai        | F-7987              | 2486             |
| 28107  | 7590        | 05/17/2006           | EXAMINER            |                  |
| JORDAN AND HAMBURG LLP<br>122 EAST 42ND STREET<br>SUITE 4000<br>NEW YORK, NY 10168 |             |                      | COMAS, YAHVEH       |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2834                |                  |

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/673,780

Applicant(s)

KANAI ET AL.

Examiner

Yahveh Comas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) †
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claim 1-18 have been considered but are moot in view of the new grounds of rejection.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 17 disclose that the back yoke is attached to the sleeve and said back yoke is also supported by the hub however is unclear how the back yoke is attached to the sleeve and connected to the hub wherein the hub is rotating and the sleeve is stationary.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 recites the limitation "back hub" in line 16. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al U.S. Patent NO. 6,069,429.

Yamamoto discloses a motor with an aerodynamic bearing comprising a base, a shaft (3,8b) projecting upwardly from said base (1) at a point adjacent a central portion of said base, a sleeve (8a) on an outer circumferential part of said shaft (101), a gas-containing volume between said sleeve and said outer circumferential part of said shaft (3,8b) so that only a aerodynamic bearing is disposed along a length of said shaft (3,8b), a rotor (5) on said outer circumferential part of said sleeve, a hub (4) disposed against an upper portion of said rotor (5) and said sleeve (8a), a plurality of permanent magnets on said rotor, and a coil (2) on said base and surrounding an outer circumferential part of said rotor.

Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. U.S. Patent No. 6,580,186.

Suzuki discloses a base, a shaft (12) projecting from said base at a point adjacent a central portion of said base, a sleeve (103) on an outer circumferential part of said shaft (12), separated from said shaft only by a gas volume, a coil (11) disposed

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on said base, said coil (11) surrounding an outer circumferential part of said sleeve (103), said coil (11) being disposed axially collinear with said sleeve (103), a rotor on an outer circumferential part of said coil (11), a plurality of permanent magnets on said rotor, and a hub (104,114) supporting an upper portion of said sleeve (103) and said rotor (11), said hub surrounding an upper portion of said shaft (12) and an outer circumferential part of said rotor (11).

Claim 3 is rejected under 35 U.S.C. 102(a) as being anticipated by Obata et al. EP Patent NO. 1246182A2.

Obata discloses a base (7), a sleeve (8) projecting upwardly and downwardly from the base (7) at a point adjacent a central portion of said base a portion of said sleeve being surrounded by said base (7), a shaft positioned in said sleeve (8), a gas volume, between said shaft (3) and said sleeve (8), defining an aerodynamic bearing, a rotor (11) on an outer circumferential part of said sleeve (8), a plurality of permanent magnets on said rotor (11), and a coil (15) surrounding an outer circumferential part of said rotor (11).

Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita et al. U.S. Patent No. 4,523,800.

Yamashita disclose a base (2), a shaft (15) projecting upwardly from said base at a point adjacent a central portion of said base (2), a sleeve (22) on an outer circumferential part of said shaft (15), a gas-containing volume between said sleeve (22) and said outer circumferential part of said shaft (15), defining an aerodynamic bearing, a rotor (24) surrounding an outer circumferential part of said sleeve (22), a coil

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(26) surrounding an outer circumferential of said rotor, said coil extending above and below said rotor, and a thrust washer (44, 48) at a lower end portion of said sleeve (22).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al U.S. Patent NO. 6,069,429 in view of Ackermann et al. U.S. Patent No. 5,714,828.

Yamamoto discloses the claimed invention except for a back yoke attached to said hub, such that said back yoke is positioned around an outer circumferential part of said coil. However, Ackermann disclose the use of a stator having a coreless waveform wherein the coil configuration is free from soft-magnet pans and is externally

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surrounded with a sleeve-shaped soft-iron yoke in order to reduce the acoustic noise, mechanical vibrations and speed fluctuations and increase the starting torque.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify Yamamoto's invention and provide a back yoke is positioned around an outer circumferential part of said coil as disclosed by Ackermann since that would had been desirable to reduce the acoustic noise, mechanical vibrations, speed fluctuations and increase the starting torque.

Claim 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable Yamamoto et al U.S. Patent NO. 6,069,429 in view of Ackermann et al. U.S. Patent No. 5,714,828 and in further view of Sung et al. 6,618,214.

Yamamoto in view of Ackermann discloses the claimed invention except for a color wheel attached to one of the hub and back yoke. However, Sung discloses a color wheel attached to one of the rotor for use in a projection display system.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify Yamamoto's invention and provide a color wheel attached to one of the rotor hub as disclosed by Sung since that would had been desirable to use said color wheel in a projection display system.

Claim 6-10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al U.S. Patent NO. 6,069,429 in view of Ackermann et al. U.S. Patent No. 5,714,828 and in further view of Sung et al. 6,618,214 in further view Komura U.S. Patent No. 6,417,590.

Yamamoto in view of Ackermann, Tanaka and Sung, discloses the claimed invention except for a first magnet attached to a concavity of an upper part of said shaft and a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet. However Komura discloses a first magnet attached to a concavity of an upper part of said shaft and a second magnet attached to an upper portion of said shaft in order to provide a magnetic bearing that support the weight of the hub.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify Yamamoto's invention and provide first magnet attached to a concavity of an upper part of said shaft and a second magnet attached to an upper portion of said shaft to support the weight of the hub.

Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obata et al. EP Patent NO. 1246182A2 in view of Ackermann et al. U.S. Patent No. 5,714,828, in view of Sung et al. 6,618,214 in further view Komura U.S. Patent No. 6,417,590.

Obata discloses the claimed invention except a back yoke surrounding a circumferential part of the coil, a color wheel attached to one of the hub and back yoke, and a first magnet attached to a concavity of an upper part of said shaft and a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

However, Ackermann disclose the use of a stator having a coreless waveform wherein the coil configuration is free from soft-magnet pans and is externally



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surrounded with a sleeve-shaped soft-iron yoke in order to reduce the acoustic noise, mechanical vibrations and speed fluctuations and increase the starting torque.

However, Sung discloses a color wheel attached to one of the rotary portion for use in a projection display system.

However Komura discloses a first magnet attached to a concavity of an upper part of said shaft and a second magnet attached to an upper portion of said shaft in order to provide a magnetic bearing that support the weight of the hub.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify Obata's invention and provide a back yoke surrounding a circumferential part of the coil as disclosed by Ackermann, a color wheel attached to one of the rotor hub as disclosed by Sung since that would had been desirable to reduce the acoustic noise, use said color wheel in a projection display system, and provide first magnet attached to a concavity of an upper part of said shaft and a second magnet attached to an upper portion of said shaft to support the weight of the hub.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yahveh Comas whose telephone number is (571) 272-2020. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YC

  
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